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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,998	09/06/2002	Arun Kumar Jaura	201-1225	1850

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EXAMINER

CAMPBELL, KELLY E

ART UNIT PAPER NUMBER

3618

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/064,998

Applicant(s)

JAURA ET AL.

Examiner

Kelly E Campbell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-9 and 11-14 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

The amendment filed 07/28/04 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,6-9,11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buglione et al (US 5,845,731) modified by Soontag (US 6,213,233).

Buglione et al teaches a cooling system for a vehicle powertrain (14) having a motor (20) and a transmission (16,18,24) including:

a stator housing (30), see Column 4, lines 15-43;

a cooling loop (62) in heat conductive contact with the motor stator housing (30) and with the transmission , see Column 3, lines 12-55;

the cooling loop (62) including a heat exchanger (not shown) and conduits (64,110) providing fluid flow connection between the motor stator housing (30) , the transmission and the heat exchanger, and the cooling loop

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(62) further including a mechanical transmission pump (not shown, see Column 5, lines 23-41).

Sonntag et al teaches a cooling loop for a hybrid vehicle, see Figure 1, wherein the cooling loop includes a heat exchanger (68) and further including a mechanical pump (20) and an auxiliary pump (78) for delivering coolant through the heat exchanger (68) for controlling the flow of coolant.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cooling system of the invention taught by Morimoto with an additional pump as taught by Sonntag et al in order to provide increased control of the flow of coolant throughout the cooling circuit.

With regards to claims 7-8, Sonntag et al discloses the arrangement or displacement of the mechanical pump (20) and the auxiliary pump (78) to be of no importance or significance, see Column 2, lines 27-29 and Column 3, lines 50-53, and it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70.

With regards to claim 9, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the range of maximum temperature for the transmission and motor to be no greater than 250 degrees Fahrenheit and 630 degrees Fahrenheit, respectively, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buglione et al (US 5,845,731) modified by Soontag et al (US 6,213,233) as applied to claim 1 above, and further in view of Prabhu et al (US 6,670,788).

Buglione et al modified by Sonntag et al teaches all aspects of the claimed invention as discussed above for claim 1, except a hybrid vehicle cooling system having an integrated starter-generator.

Prabhu et al teaches a hybrid vehicle including a ISG or Integrated Starter-Generator (11), see Column 1, lines 17-25.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the hybrid vehicle invention taught by Buglione et al in view of Sonntag et al, since the ISG is a known replacement for the motor/generator and performs additional functions such as automatic start-stop and regenerative braking for enhancing vehicle versatility and functionality.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buglione et al (US 5,845,731) modified by Soontag et al (US 6,213,233) as applied to claim 1 above, and further in view of Hasebe et al (US 6,467,286).

Buglione et al modified by Soontag et al does not teach a controller for commanding operation of a pump at a pre-selected input threshold received from a sensor.

Hasebe et al teaches a cooling loop for a hybrid vehicle wherein a circulating pump (13) is driven by signals or processed input, received from a

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vehicle temperature sensor (22) wherein the processed input of at least one vehicle sensor (2) exceeds a pre-selected threshold or predetermined temperature.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cooling system with vehicle sensors taught by Hasebe et al such that the pump is operated when the processed input of the sensor exceeds a threshold in order to provide specific standards and circumstances for executing the cooling system.

#### ***Allowable Subject Matter***

Claims 2-4 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments filed 7/28/04 have been fully considered but they are not persuasive. Applicant's arguments that the clutch 18,24 and gear set (16) are "obviously un-cooled" and Buglione is devoid of a transmission cooling loop, have been considered.

The transmission of Buglione includes a clutch 18,24 and gear set 16, but is not exclusive to those elements. In the previous office action, the Examiner

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included "some", not "all" elements of the transmission. Rotors (70 and 90) engaging shaft (39) are also included in the vehicle "transmission", as the transmission of a vehicle is defined as "an assembly of parts **including** the speed-changing gears **and the propeller shaft** by which the power is transmitted from an automobile engine to a live axle, per Merriam-Webster's Collegiate Dictionary, 10<sup>th</sup> edition.

Referring also to Column 5, lines 23-40, the rotors are engaged in a cooling loop system with a heat exchanger unit, not shown.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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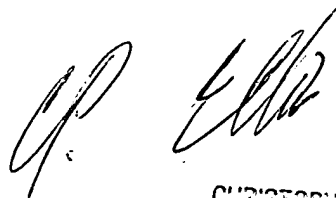
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly E Campbell whose telephone number is (703) 605-4264. The examiner can normally be reached on 9:00-5:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (703) 305-0168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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